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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/634,133	08/04/2003	Stefan Vilsmeier	SCHWP0185USA	5770

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EXAMINER

SHAHRESTANI, NASIR

ART UNIT	PAPER NUMBER
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3737

MAIL DATE	DELIVERY MODE
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09/29/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/634,133	Applicant(s) VILSMEIER ET AL.	
	Examiner NASIR SHAHRESTANI	Art Unit 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments, see REMARKS, filed 12/22/2008, with respect to the rejection(s) of claim(s) 1-20 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art reference(s).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cosman (U.S. 6,405,072) in view of Whitehurst et al. (U.S. 6,733,485 B1).

Cosman teaches a method for detecting a target volume (title) in radiotherapy or radiosurgery (fig. 2), the method comprising: referencing a marker in the vicinity of the target volume (col. 3 lines 29-36) in order to provide parameters indicative of a target volume.

Cosman does not teach the use of markers (ex-vivo) and the use of internally placed implants. Furthermore, Cosman does not teach the inductive stimulation of such implants to provide data indicative of a target volume.

Whitehurst et al. teach referencing at least one implant in the vicinity of the target volume (fig. 6) and inductively stimulating the at least one implant (inductive coil 146).

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It would have been obvious to one of ordinary skill in the art at the time of invention to have modified Cosman and to have included implant localization and stimulation as taught by Whitehurst in order to provide a clear representation of a target volume while stimulating implanted elements that would provide a further indication of a location as well as the potential for therapeutic applications.

Cosman further teaches introducing the at least one implant into the patient in the vicinity of the target volume (column 11 lines 4-5); detecting the position of the implant using an imaging system (column 1 lines 65-67); and referencing an implant relative to inner organs and anatomical structures (column 3 lines 29-32).

Cosman further teaches moving the patient to a therapy device after detecting the implant (column 3 lines 42-46; column 7 lines 1-6); and generating an electromagnetic field in the vicinity of but outside the patient (column 20 lines 28-31), wherein the implant inherently inductively absorbs energy and at least partially re-emits the absorbed energy being in the form of a second EM signal; and detecting said second EM signal outside the patient (column 4 lines 62-67); and determining the position of said implant relative to measuring points at which said second EM signal is detected and position of said measuring points relative to the therapy device being inherently known by user (fig. 2; fig. 10).

Cosman further teaches activating the therapy device only when the position of the target volume is within a predetermined range about a current target point of the therapy device (column 21 lines 6-28).

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Cosman further teaches shifting the patient for the target volume to be captured by a therapy beam (fig. 4 element 75), and further teaches adjusting a therapy beam to the position of the target volume (fig. 4 elements 76 & 85).

Cosman further teaches continuously detecting the position of the implant and determining a shift in the position of the target volume caused by breathing based on the detected position (dashed lines 155; column 16 lines 60-67).

Cosman further teaches wherein the measuring points are situated on a rotating portion of a linear accelerator (fig. 11 elements 40A, 40B, 40C).

Cosman further teaches wherein the measuring points are integrated into a treatment couch of the therapy device (fig. 11 elements 32, 30, 31).

Cosman further teaches wherein one or more measuring points are attached to a solid mobile structure as mentioned above, which position relative to the therapy device is tracked three-dimensionally by means of a real-time tracking system (column 7 lines 25-41; column 8 lines 31-41).

Cosman further teaches at least one of the steps is performed in a space adjacent to a treatment position (fig. 7); and a wherein a tracking system additionally tracks the movement and position of external infrared markings (arrows 26), wherein the position and movement of the implant is referenced with respect to the position and movement of the external markings, and wherein positioning, are based only on tracking the external markings (abstract; column 2 lines 21-37).

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Cosman in view of Whitehurst et al. teach all the limitations as described above and further teach determining the position of the implant relative to measuring points (column 3 lines 42-46; column 7 lines 1-6), being connected to the patient or to a couch (fig. 1; fig. 7); and teaches the measuring points are fitted with reference means and patient being moved to the measuring device using reference (fig. 4) and further teaches a three-dimensional tracking system being an optical infrared camera (camera C2). However, Cosman in view of Whitehurst do not teach the patient being situated in a space or region in which there are few interference fields as possible and in which there are as few metallic parts as possible. Conventional Radiotherapy practices teach the aforementioned limitations and precautions, being well-known in the art and official notice of such is taken. It would have been obvious to one of ordinary skill in the art to have modified the method as taught by Cosman in view of Whitehurst and to have further included the step of situating the patient for Radiotherapy in an area with few interference fields and external metallic parts in order to prevent distortion in transmission signals and to provide for accurate detecting means.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NASIR SHAHRESTANI whose telephone number is (571)270-1031. The examiner can normally be reached on Mon.-Thurs: 7:30-5:00, 2nd Friday: 7:30-4:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BRIAN CASLER/
Supervisory Patent Examiner, Art Unit
3737

/Nasir Shahrestani/
Examiner, Art Unit 3737